# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/738,318 | 12/17/2003 | Sujit Basu | 200310440-1 | 7916 |

| | | |
|---|---|---|
| 22879 7590 08/23/2007 | EXAMINER | |
| HEWLETT PACKARD COMPANY | PANTOLIANO JR, RICHARD | |
| P O BOX 272400, 3404 E. HARMONY ROAD | | |
| INTELLECTUAL PROPERTY ADMINISTRATION | ART UNIT | PAPER NUMBER |
| FORT COLLINS, CO 80527-2400 | 2194 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 08/23/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

.

.

.

.

J

PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/738,318 | BASU ET AL. |
| | **Examiner** | **Art Unit** | |
| | Richard Pantoliano Jr | 2194 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication..
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>22 May 2007</u>.

2a)☒ This action is **FINAL**.     2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-35* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All  b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1.      This Office Action is filed in response to amendments filed on **22 May 2007** in

regard to Application# **10/738,318**. **Claims 1-35** are currently pending and have been

considered below. ·

### *Claim Rejections - 35 USC § 112*

2.      The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

3.      **Claims 1-35** are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention.

4.      As to independent **Claims 1, 13, 16 and 26,** these claims recite the limitation

"...generic reusable intermediate data format which is independent of a format used by

the source platform code or on the one or more target platforms...". However, as

discussed on page 6, para. [0020] of Applicants' specification, it is merely recited that:

> "...the generic reusable format representing a set of information elements that reflect the
>
> relevant aspects of the computer code originating in the source platform, such as the

flow, logic, user interface, etccetera. As illustrated by eXtensible Makup Language (XML)

Processing block 250, these elements may be stored in an XML format."

No discussion is made of the format being "independent of a format used by the

source platform code or on the one or more target platforms". As such, this

added limitation is unsupported by the specification and, therefore, represents

new matter.

5. As to dependent **Claims 2-12, 14, 15, 17-25 and 27-35**, these claims fail

to correct the deficiencies of the independent claims and are, therefore, rejected

for the same reasoning as applied to **Claims 1, 13, 16m and 26.**

## Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-4, 9-16, 18-23, and 26-35** are rejected under 35 U.S.C. 102(e) as

being anticipated by Vargas (US PGPub: 2004/0103405). . .

8. As to **Claim 1,** Vargas discloses the invention substantially as claimed including

a method for converting data suitable for use on a source platform into data suitable for

use on one or more target platforms, said method comprising:

a) analyzing source platform code *(para. [0091])*;

b) extracting information from said analyzed source platform code wherein said extracted information represents system model information which includes at least one of the logic, flow, user interface description, or data of said source platform code *(para. [0092])*;

c) representing the extracted system model information in a generic reusable intermediate data format which is independent of a format used by the source platform code or on the one or more target platforms (para. [0047] and [0110]);

d) storing the generic reusable intermediate data format representing the extracted information (para. [0046]); and

e) transforming said generic reusable intermediate data format representing the extracted information into code suitable for the one or more target platforms *(para. [0093])*.

9.    As to **Claim 2**, <u>Vargas</u> discloses wherein said defined structure and format is XML *(para. [0110])*.

10.    As to **Claim 3**, <u>Vargas</u> discloses wherein said analyzing of said source platform code comprises:

a) defining a language recognition tool *(para. [0091])*; and

b) using said defined language recognition tool to recognize elements of a program in a particular language *(para. [0091])*.

11.     As to **Claim 4,** <u>Vargas</u> discloses wherein said language recognition tool is based on an EBNF programming language grammar *(para. [0118])*.

12.     As to **Claim 9,** <u>Vargas</u> discloses producing a report from said extracted information *(para. [0110]) (The XML document generated as a result of parsing the original source code meets this limitation)*.

13.     As to **Claim 10,** <u>Vargas</u> discloses analyzing and performing an intermediate transformation of said extracted information to assist with said report producing step *(para. [0111]-[0112])*.

14.     As to **Claim 11,** <u>Vargas</u> discloses wherein said report comprises at least one of: a user interface mock-up; data definitions; symbol counts; application flow; a generic XML report to assist in validating or verifying other complex manual migration of code from one platform to another platform; and details of a status of migration of code from one platform to another platform for a user *(para. [0110]) (The XML document meets this limitation both by creating as a generic XML document and by containing the flow of the program by maintaining a hierarchy of how the elements are related)*.

15.     As to **Claim 12,** <u>Vargas</u> discloses wherein said transforming step comprises:

a) defining a set of transformation rules specific to said target platform *(Fig. 5-14 and Pgs. 9-11)*; and

b) using said transformation rules in transforming said extracted information into code suitable for said target platform *(Fig. 5-14 and Pgs. 9-11)*.

16.    As to **Claim 13,** <u>Vargas</u> discloses the invention substantially as claimed including a mechanism for migrating computer code from a source platform to one or more target platforms comprising:

a) a means for preparing source files *(Fig. 2B) (The parser 112 meets this limitation)*;

b) means for extracting information from said prepared source files wherein said extracted information represents system model information which includes at least one of logic, flow, user interface description, or data of said source files *(para. [0092])*;

c) means for representing the extracted system model information in a generic reusable intermediate data format which is independent of a format used by the source files or the one or more target platforms (para. [0047] and [0110]);

d) means for storing the generic reusable intermediate data format representing the extracted information (para. [0046]); and

e) means for transforming said generic reusable intermediate data format representing the extracted information into code suitable for the one or more target platforms *(para. [0111]-[0113])*.

17.     As to **Claim 14,** <u>Vargas</u> discloses a means for preparing reports on said

prepared source files *(para. [0110])*.


18.     As to **Claim 15,** <u>Vargas</u> discloses a means for creating transformation rules to

assist with said transforming means and a means for inputting said transformation rules

into said means for transforming said generic reusable intermediate data format *(Fig. 5-*

*14 and Pgs. 9-11)*.


19.     As to **Claim 16,** being a computer program product of the method of **Claim 1**, it is

rejected for the same reasons as **Claim 1** above.


20.     As to **Claim 18,** <u>Vargas</u> discloses code for generating reports based on said

generic reusable intermediate data format representing the extracted information *(para.*

*[0110])*.


21.     As to **Claim 19,** <u>Vargas</u> discloses code for analyzing and processing said generic

reusable intermediate data format representing the extracted information to assist said

code for generating reports *(para. [0111])*.


22.     As to **Claim 20,** <u>Vargas</u> discloses code for generating an output file representing

the code suitable for use on said target platform *(para. [0110]-[0111])*.

23.     As to **Claim 21,** <u>Vargas</u> discloses said code for transforming comprises:

        a) code for inputting a set of transformation rules specific to said target platform;

and

        b) code for using said transformation rules to convert said generic reusable

intermediate data format representing the extracted information into said code suitable

for use on said target platform *(Fig. 5-14 and pgs 9-11)*.


24.     As to **Claim 22,** <u>Vargas</u> discloses code for storing said generic reusable

intermediate data format representing the extracted information of said code suitable for

use on said source platform in XML format *(para. [0096] and [0110])*.


25.     As to **Claim 23,** <u>Vargas</u> discloses code for generating an output file representing

said generic reusable intermediate data format representing the extracted information

that reflect said relevant aspects of said code suitable for use on said source platform

*(para. [0096] and [0110])*.


26.     As to **Claim 26,** this claim is rejected for the same reasoning as providied for

**Claim 1**, with <u>Vargas</u> further teaching:

        a) memory storing a transformation program operating to *(para. [0036] and Fig 1,*

*item 106) (The program is shown as being stored on the computer 106)*; and

        b) a processor for executing said transformation program *(para. [0037] and Fig 1,*

*item 106)*

27.     As to **Claim 27,** <u>Vargas</u> discloses said defined structure and format is XML *(para.*
*[0110]).*


28.     As to **Claim 28,** <u>Vargas</u> discloses wherein said analyzing of said source platform

code comprises:

    a) defining a language recognition tool *(para. [0091])*; and

    b) using said defined language recognition tool to recognize elements of a

program in a particular language *(para. [0091]).*


29.     As to **Claim 29,** <u>Vargas</u> discloses wherein said language recognition tool is

based on an EBNF programming language grammar *(para. [0118]).*


30.     As to **Claim 30,** <u>Vargas</u> discloses wherein said transformation program operates

to further analyze a program operating on a source platform by: defining a custom

analysis tool that is specific to said program operating on said source platform; and

using said defined custom analysis tool to pre-process said program operating on said

source platform before said extracting of information *(para. [0087]-[0089] and [0091]-*

*[0093]) (In order to analyze each of the different languages specified, it is inherent that*

*the analysis tool used for each language be tailored to that language).*

31.     As to **Claim 31,** <u>Vargas</u> discloses wherein said transformation program operates

to further analyze a program operating on a source platform by: defining a tool to be

used for analyzing said source program operating on said source platform; and using

said defined tool to identify elements of said source program operating on said source

platform that are relevant and not-relevant to said transforming of said extracted

information *(para. [0118]) (The analyzer contains a component to determine what*

*information need not or cannot be converted to the target language.  Who supplies the*

*utility is irrelevant to the operation of the system).*


32.     As to **Claim 32,** <u>Vargas</u> discloses wherein said transformation program further

operates to: produce a report from said extracted information *(para. [0110]) (The XML*

*document generated as a result of parsing the original source code meets this*

*limitation).*


33.     As to **Claim 33,** <u>Vargas</u> discloses wherein said transformation program further

operates to: analyze and perform an intermediate transformation of said extracted

information to assist with said report producing *(para. [0111]-[0112]).*


34.     As to **Claim 34,** <u>Vargas</u> discloses said report comprises one or more of: a user

interface mock-up; data definitions; symbol counts; application flow; a generic XML

report to assist in validating or verifying other complex manual migration of code from

one platform to another platform; and details of a status of migration of code from one

platform to another platform for a user *(para. [0110]) (The XML document meets this limitation both by creating as a generic XML document and by containing the flow of the program by maintaining a hierarchy of how the elements are related)*.

35.    As to **Claim 35,** Vargas discloses said transformation program operates to transform said extracted information by:

a) defining a set of transformation rules specific to said target platform *(Fig. 5-14 and Pgs. 9-11)*; and

b) using said transformation rules in transforming said extracted information into code suitable for said target platform *(Fig. 5-14 and Pgs. 9-11)*.

## *Claim Rejections - 35 USC § 103*

36.    The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

37.    **Claims 5-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas in view of Reid et al (US Pat: 6,560,592), hereinafter Reid.

38.    As to **Claim 5**, <u>Vargas</u> does not disclose said language recognition tool is an

ANTLR language recognition tool.  <u>Reid</u> discloses the use of a parse generated using

the ANTLR parser generator *(Col. 19, Lines 48-66)*.

39.    It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the method disclosed by <u>Vargas</u> with the ANTLR teachings of <u>Reid</u>

because of the ease of use and standardization of output that tools such as ANTLR

provide.  Parser generators such as ANTLR generate parsers for text based on the

syntax of the language the software developer wishes to parse.  By allowing the

developer to input a description of the language he or she wishes to parse, a tool such

as ANTLR will output a program capable of parsing that language in a standardized

way, without requiring the developer to generate a unique parser for each language by

hand.


40.    As to **Claim 6**, <u>Vargas</u> discloses wherein said analyzing step further comprises:

defining a custom analysis tool that is specific to said source platform code; and using

said defined custom analysis tool to pre-process said source platform code before said

extracting of information *(para. [0087]-[0089] and [0091]-[0093]) (In order to analyze*

*each of the different languages specified, it is inherent that the analysis tool used for*

*each language be tailored to that language to read that inputted language and give a*

*proper output)*.

41.   As to **Claim 7,** <u>Vargas</u> discloses wherein said analyzing step further comprises:

defining a custom analysis tool that is specific to said source platform code; and using

+said defined custom analysis tool to post-process said source platform code after said

extracting of information *(para. [0087]-[0089] and [0091]-[0093]) (In order to analyze*

*each of the different languages specified, it is inherent that the analysis tool used for*

*each language be tailored to that language to read that inputted language and give a*

*proper output).*


42.   As to **Claim 8,** <u>Vargas</u> discloses wherein said analyzing step further comprises:

defining a tool to be used for analyzing said platform code; and using said defined tool

to identify elements of said source platform code that are relevant and not-relevant to

said transforming of said extracted information *(para. [0118]) (The analyzer contains a*

*component to determine what information need not or cannot be converted to the target*

*language. Who supplies the utility is irrelevant to the operation of the system).*


43.   **Claims 17, 24 and 25** are rejected under 35 U.S.C. 103(a) as being

unpatentable over <u>Vargas</u> in view of <u>Li</u> (US Pat: 6,546,549).


44.   As to **Claim 17,** <u>Vargas</u> does not explicitly disclose code for optimizing said

source platform for extraction.  However, <u>Li</u> does disclose optimizing said code by using

templates for the same software platforms but from different execution platforms to be

utilized to generate new code that would be compatible with all of the execution

platforms, involved *(Col. 4, Lines 23-62)*.

45.     It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the computer program product disclosed by <u>Vargas</u> with the

teachings of <u>Li</u> to allow for the target source code produced by <u>Vargas</u>'s system to be

executable on multiple execution platforms in the new language upon which the target

source would be composed.

46.     As to **Claim 24,** it is rejected for the same reasons as **Claim 17** above.

47.     As to **Claim 25,** Vargas discloses code for performing customized extraction of

information from said code suitable for use on said source platform *(para. [0107]-[0108])*

*(The user computer program product can select which source platform files to process)*.

### *Response to Arguments*

48.     Applicant's arguments filed **22 May 2007** have been fully considered but they are

not persuasive.

49.     As to **Claim 1**, Applicants' argue that <u>Vargas</u> does not teach "...representing the

extracted system model information in a generic reusable intermediate data format

which is independent of a format used by the source platform code or on the one or

more target platforms".  Examiner respectfully disagrees.  As discussed in the 35 U.S.C

112, first paragraph, rejection above, Applicants' recite merely using an XML document

as being the generic format in which the intermediate information is stored. Since

Vargas discloses that the SourceUnit DOM is stored as an XML document (para.

[0110]), the claim limitation is met.

50.     Applicants' cite para. [0030] of Vargas as showing features which make the

above cited limitation unnecessary. This is simply incorrect. Vargas states that it is the

*tool*, that is, the executing program, which uses "tables and specific language

knowledge" to convert the intermediate data as represented by the SourceUnit DOM

into the target code. It is the specific knowledge of the source and target languages that

allow for the *intermediate* representation to be generic. For these, reasons, Examiner

maintains the rejection of **Claim 1**.

51.     As to the rejections of **Claims 2-35**, being argued for the same reasoning as

applied to **Claim 1**, Examiner maintains the rejections of these claims for the same

reasoning as applied to the arguments for **Claim 1**.


### *Conclusion*

52.     Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

53.     A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

54.    Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Pantoliano Jr whose telephone number is (571) 270-1049. The examiner can normally be reached on Monday-Thursday, 8am - 4 pm EST.

55.    If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571)272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

56.    Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system.  Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


RP
08/06/2007

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER